

Clark County Department of Building & Fire Prevention

4701 West Russell Road • Las Vegas NV 89118 (702) 455-3000 • Fax (702) 221-0630

Division:	Engineering	Policy & Procedure:	TG-90
Subject:	Electrical Testing Services	Effective Date:	06/01/2007
Code:	22.02.500 Other Inspections	Revised Date:	04/01/2021

- **1.0 PURPOSE:** 22.02.500 Other Inspections. In addition to the required electrical inspections (BAC 22.02.475), the Building Official may require other inspections of any work to ascertain compliance with this Chapter and the technical codes. These inspections and tests are required in the National Electrical Code and the National Fire Protection Association Standards and Guidelines.
- **SCOPE:** This guideline provides information for the listing of approved electrical testing agencies and approved electrical testing technicians. This guideline also provides information for the testing, reporting, submittal, review and acceptance of certain electrical testing services performed by the approved electrical testing agencies.

3.0 ABBREVIATIONS & ACRONYMS:

BAC: Building Administrative Code of Clark County

CCDBFP: Clark County Department of Building & Fire Prevention

NEC: National Electrical Code

NETA International Electrical Testing Association

NFPA: National Fire Protection Agency

TG: Technical Guideline

DEFINITIONS: For the purposes of this technical guideline, certain terms, phrases, words and their derivatives shall be construed as specified in this section and the Building Administrative Code of Clark County.

Approved Electrical Testing Agency: An agency that is approved by the Building Official who is engaged in the testing of electrical equipment and systems and the reporting of test results.

Quality Systems Manual: A quality systems manual is composed of a series of documents that contain policy statements, procedures, reporting requirements and personnel qualifications. The quality systems manual defines the procedural responsibilities to ensure the operations are completed, reviewed and documented.

Electrical Testing Services: Is a collection of tests performed by an approved electrical testing agency of certain electrical components and systems to verify compliance to Clark County codes.

4.0 **REFERENCES**:

National Electrical Code Building Administrative Code of Clark County Southern Nevada Building Code Amendments

5.0 RESPONSIBILITIES:

<u>5.1 Permit Holder:</u>

5.1.1 The permit holder shall engage a Clark County approved agency that is approved to perform electrical testing to perform all required electrical testing services.

Electrical Testing Services

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- 5.1.2 The permit holder shall ensure the agency provides certain required reports for the following electrical testing services:
 - High Potential Insulation Testing (HPIT)
 - MEG-Ohm Testing (MEGT)
 - Ground Fault Protection Testing (GFPT)
 - Emergency Power Testing (EPT)
 - Ground Resistivity Testing (GRT)
 - Selective Coordination Study
- 5.1.3 The permit holder shall coordinate electrical testing services with the approved agency.
- 5.1.4 The permit holder shall coordinate electrical testing services and schedule required inspections with CCDBFP.

Electrical Testing Agency:

- 5.2.1 The agency designated to perform electrical testing services shall be approved by Clark County.
- 5.2.2 An agency seeking approval status shall apply for approval online.
 - 5.2.2.1 Agency shall apply online to request a new agency listing, on the Clark County Citizen Access Portal.
 - o The agency shall create an account.
 - The agency account shall utilize agency email address.
 - The email shall not contain an individual's name.
 - The name of the quality agency shall be the name as listed on the incorporation documents and Clark County Business License.
 - 5.2.2.2 Fees are listed in the Building Administrative Code.
 - 5.2.2.3 A Clark County Citizen Access Portal How-To-Guide is in Appendix E.
- 5.2.3 In order to obtain approval, an agency must submit to Clark County for review and approval a Quality Systems Manual other information as required in this guideline and the listing fees.
- 5.2.4 Agencies that are approved for only electrical testing are not required to have an engineering manager.
- 5.2.5 The quality control manager shall perform audits of all personnel per the NETA certification requirements.
- 5.2.6 The approved electrical testing personnel employed by the approved agency shall perform all required testing and other services as required in the BAC, NEC, NFPA and this guideline.
- 5.2.7 The approved agency shall submit all required reports to Clark County

5.3 Clark County Department of Building & Fire Prevention:

- 5.3.1 Plans Examination may determine upon review of plans prior to permit issue that electrical testing will be required and stipulate the electrical quality agency requirement.
- 5.3.2 Electrical testing that becomes necessary during the course of construction shall be identified by the electrical inspector. The electrical inspector shall require the owner or owner's representative to return to Plans Examination to obtain an inspection agency agreement.
- 5.3.3 Engineering will review the agency's initial application package for compliance to this guideline and referenced codes and standards.
- 5.3.4 Review the agency's annual renewal package for compliance to this guideline and referenced codes and standards.
- 5.3.5 Create project specific Building Inspection Agency Permits (BDIA) for the agency that are related to the primary permit at the time of permit issuance.
- 5.3.6 Review electrical testing reports in accordance with Section 6.0.

6.0 PROCEDURES:

6.1 Initial and Annual Approval Requirements:

An agency seeking approval to perform electrical testing services shall comply with Technical Guideline 17. The following must be uploaded.

- 6.1.1 Incorporation documents
- 6.1.2 List of current corporate directors
- 6.1.3 Current Clark County business license
- 6.1.4 Completed Technical Services Acknowledgment
- 6.1.5 Completed Calibration Program & Testing Methods Acknowledgment
- 6.1.6 Completed Declaration of Quality Control Manager
- 6.1.7 Current NETA certification letter
- 6.1.8 Lists of inspection personnel
- 6.1.9 The agency shall add personnel through the Clark County Citizen Access Portal when directed.
 - Inspectors shall comply with the requirements of Technical Guideline 17.
 - Inspector certification records shall be uploaded to each inspector's record.
 - For each inspector a Training Verification Form is required for initial approval and annually. A sample form is provided in Appendix B.
 - Inspectors shall be updated per the Technical Guidelines 17.

Electrical Testing Procedures:

- 6.2.1 All electrical testing procedures shall comply with requirements and guidelines in the NEC, BAC and NFPA.
- 6.2.2 The electrical inspector shall monitor that the testing has been performed and reported as approved at the appropriate time(s) during the construction and inspection processes.

Reporting of Electrical Testing Results:

- 6.3.1 All reporting of electrical testing results shall comply with requirements and guidelines in the NEC, BAC and NFPA.
- 6.3.2 Upon completion of field testing, a field inspection/testing report shall be left at the job site indicating the testing performed, test date, inspector and results of the inspection. A field report indicating approval of the required inspection/testing will allow the electrical inspector to proceed with routine requested inspections.

6.4 Review and Acceptance of Electrical Testing Results:

- 6.4.1 Electrical testing results shall be submitted as a revision to be reviewed by the electrical plans examiner.
- 6.4.2 Upon review and acceptance, the plan reviewer will release the condition and route the reviewed electrical testing results to records.

6.5 Review and Acceptance of Selective Coordination Study:

- 6.5.1 Selective Coordination Study shall be submitted to the Electrical Engineer.
- 6.5.2 The Electrical Engineer will provide a letter (signed, sealed) confirming acceptance of the selective coordination study that states substantially the following:
 - 6.5.2.1 The selective coordination study is accepted by the Electrical Engineer of record.
 - 6.5.2.2 The design of the emergency system meets the requirements of the 2017 National Electrical Code, as clearly shown in the study.
 - 6.5.2.3 The system design as shown on the approved construction documents is the same design shown on the selective coordination study.

Electrical Testing Services

- 6.5.3 The Selective Coordination Study and the Electrical Engineer letter shall be submitted together as a revision to be reviewed by the electrical plans examiner.
- 6.5.4 Upon review and acceptance, the plan reviewer will release the condition and route the approved Selective Coordination Study to records.

7.0 RECORDS:

All report forms that are planned for use in performing Electrical Testing shall be submitted with the Quality Systems Manual for review and approval. Sample report forms are provided in appendix A.

8.0 ATTACHMENTS:

Appendix A: Sample Electrical Testing Report Form

Appendix B: Training Verification Form

Appendix C: Form 862 - Technical Services Acknowledgment

Form 863 - Calibration Program & Testing Methods Acknowledgment

Form 872 - Declaration of Quality Control Manager

Appendix D: Clark County Citizen Access Portal How-To-Guide

Electrical Testing Services

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Prepared By: Brian Lenihan, P.	E. Date Prepared: 2	007
Revision History:		
Title	Revision/Approved I	Date Effective Date
TG-90-2007	February 28, 200°	
TG-90-2013	November 20, 201	November 26, 201
TG-90-2007	April 01, 2021	
Reviewed by:		
NT/A	010 11 00	
N/A	Werner Hellmer	<u>Jach Gharibian</u>
Vacant Engineering Manager	Werner Hellmer, P.E. <i>Manage of Plans Exam</i> .	Zach Gharibian ACET Manager
Engineering indiager	munuge of Funs Lann.	Hell manager
Matthew Brewer	Danny Harvat	<u> Wayne Dailey</u>
Matthew Brewer	Danny Horvat	Wayne Dailey
Manager of Inspections	Assistant Fire Chief	Assistant Fire Chief
Ofelia Monje	Amara Vigil	
Ofelia Monje	Amara Vigil	
Senior Management Analyst	Senior Management Analyst	
Samuel D. Palmer	James Gerren	
Samuel D. Palmer, P.E. C.B.O	James Gerren, P.E. C.B.O	
Assistant Director	Assistant Director	
Approved by:		
Gerome A. Stueve		
Jerome A. Stueve, P.E.		
Director/Building & Fire Official		
Director, Buttaining & Tire Officean		
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Electrical Testing Services		

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Appendix A:

Sample Electrical Testing Report Form

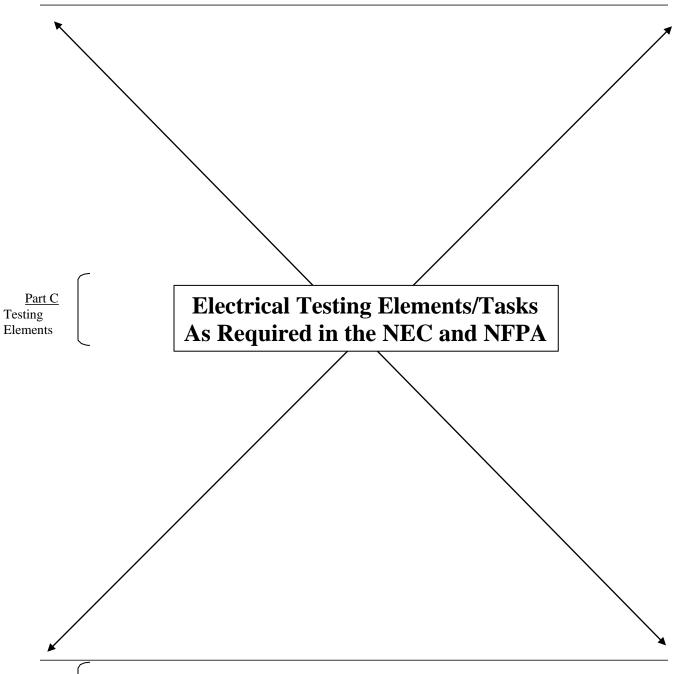
Part A Report Title

Sample Report Form

ELECTRICAL TESTING SERVICE (HPIT, MEGT, GFPT, EPT or GRT) RESULTS

Part B Project Information

Project Information: Project Name, Project Address, Permit Number, Technician Name & Signature, Company Officer Name & Signature



Part D Reserve for CCDBFP

CCBD Approval and Comments Area

Appendix B:

Training Verification Form

TG-90 – Appendix B

TRAINING VERIFICATION RECORD

	Electrical Testing Agency	
Employee Name		
Date of Hire		
NETA Certification No	Expiration	on Date
Electrical Service Test	Initial Training Date	Follow-up Training Date
HPIT		
MEGT		
GFPT		
EPT		
GRT		
Tuoinin a Duovi de d Dev		
Training Provided By(Company Officer)	Print Name	Signature
- '		C
Training Provided By		<u> </u>
(Manufacturer)	Print Name/Manu	Hacturer
() I acknowledge the above	training and a current copy of TG-	90.
Employee Signature	I	Date

Appendix C:

Form 862 - Technical Services Acknowledgment Form 863 - Calibration Program & Testing Methods Acknowledgment Form 872 - Declaration of Quality Control Manager QA Agency Logo

COMPANY LETTERHEAD ADDRESS, TELEPHONE, EMAIL

TECHNICAL SERVICES ACKNOWLEDGMENT

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COMPANY NAME will perform the inspection and testing services for the following inspection categories as listed below:

Electrical Testing

We acknowledge that inspection and testing services for all projects shall be performed per the Clark County Building Administrative Code, International Building Code, technical guidelines, technical codes, and any applicable referenced standards for the code year in which projects were approved. The quality assurance agency shall perform its services in compliance with codes, policies, and guidelines adopted by Clark County and the jurisdictions that utilize the Clark County approved listings.

QUALITY CONTROL MANAGER SIGNATURE QA Agency Logo

COMPANY LETTERHEAD ADDRESS, TELEPHONE, EMAIL

CALIBRATION PROGRAM & TESTING METHODS ACKNOWLEDGMENT

DATE

COMPANY NAME acknowledges that all testing services shall be performed using the current applicable referenced standards, for all projects governed by Clark County and the municipalities that utilize the Clark County approved listings.

COMPANY NAME acknowledges that all of the equipment used in the performance of inspection activities and testing services; shall be calibrated to the applicable referenced standards for all projects governed by Clark County and the municipalities that utilize the Clark County approved listings. The calibration of the equipment have been performed and documented by an outside party or staff using traceable methods as defined within ISO 9000, ISO 17025, and ASTM standards.

QUALITY CONTROL MANAGER SIGNATURE ENGINEERING MANAGER SIGNATURE

Form 863

QA Agency Logo

COMPANY LETTERHEAD ADDRESS, TELEPHONE, EMAIL

DECLARATION OF QUALITY CONTROL MANAGER

D	ATE
Ι,_	, hereby declare the following:
	1. I am the Quality Control Manager of QUALITY AGENCY .
	 2. As Quality Control Manager I am responsible to the <i>Building Official</i> for: Hiring and training of qualified inspectors and testing technicians; Supervision of inspectors; The filing of accurate and complete reports based upon actual inspection and testing results; In-house distribution and application of technical guidelines; Supervising and documenting the internal audit and in-house training program.
	QUALITY CONTROL MANAGER SIGNATURE

Appendix C:

Clark County Citizen Access Portal How-To-Guide

Register, and create an Account

https://citizenaccess.clarkcountynv.gov/CitizenAccess/Splash.html

When creating your agency account, comply with Section 7.1.1.1, The agency account shall utilize agency email address. The email shall not contain an individual's name.





Please Login

Many online services offered by the County require login for security reasons. If you are an existing user, please enter your user name and password in the box on the right.

New Users

If you are a new user you may register for a free Citizen Access account. It only takes a few simple steps and you'll have the added benefits of seeing a complete history of applications, access to invoices and receipts, checking on the status of pending activities, and more.



Logging into the system



Need help? Click on the Citizen Access Knowledge Base for the latest process and department updates as well as many helpful guides for using our online functions.



Many online services offered by the County require login for security reasons. If you are an existing user, please enter your user name and password in the box on the right.

New Users

If you are a new user you may register for a free Citizen Access account. It only takes a few simple steps and you'll have the added benefits of seeing a complete history of applications, access to invoices and receipts, checking on the status of pending activities, and more

Register Now »

Building

Press process.

and then Apply for Permits, to start the new agency listing application



Check the General Disclaimer Checkbox, and then Continue Application

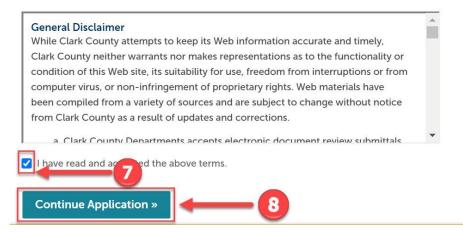
Building

Online Application

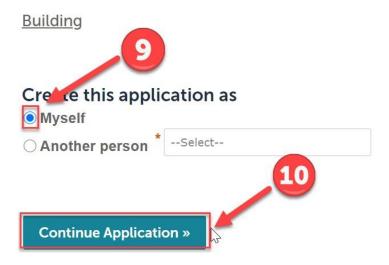
Welcome to Agency's Online Permitting System. Using this system you can submit and update information, pay fees, schedule inspections, track the status of your application, and print your final record all from the convenience of your home or office, 24 hours a day.

Search..

Please "Allow Pop-ups from This Site" before proceeding. You must accept the General Disclaimer below before beginning your application.

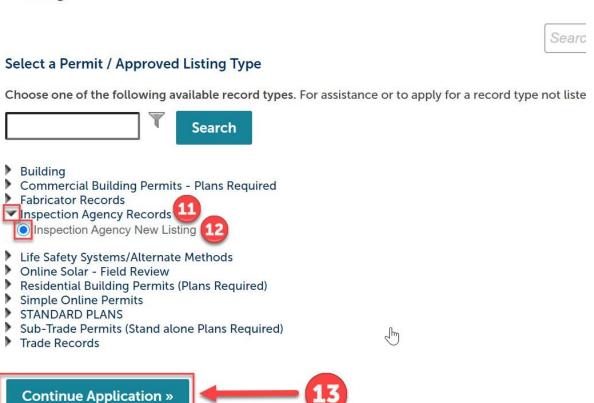


Check Myself, do not check Another Person, and then Continue Application



Choose the **Inspection Agency Records**, then **Inspection Agency New Listing**, and then **Continue Application**

Building



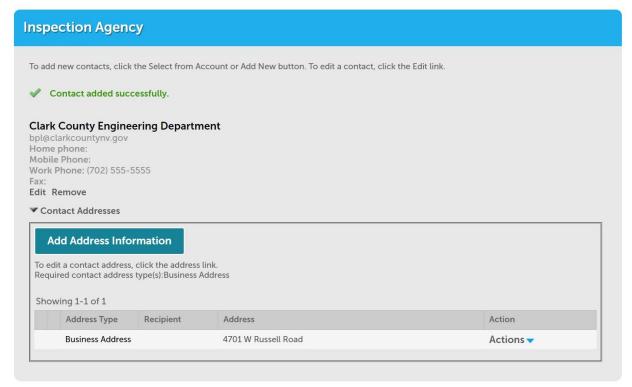
For the the Inspection Agency info choose **Select from Account**

Inspection Agency New Listing 1 Step 1 2 Review 3 Pay Fees 4 Record Issuance

Step 1: Step 1 > Page 1

* indicates a required field.

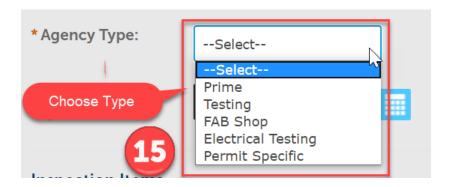




Select the **Agency Type**.

Inspection Agency Information					
*Agency Informat *Agency Type: Accreditation Expiration Date:	Select	ditation Agency:Select Agency Website:			
Inspection Items Internal Use: Field Listing: Field Listing Description:		Internal Use Special Cases: Field Listing Agency: Internal Use - Field Listing:			
Continue Applic	ation »		Save and resume later		

The type will hide or show different inspection items that relate to the agencies.

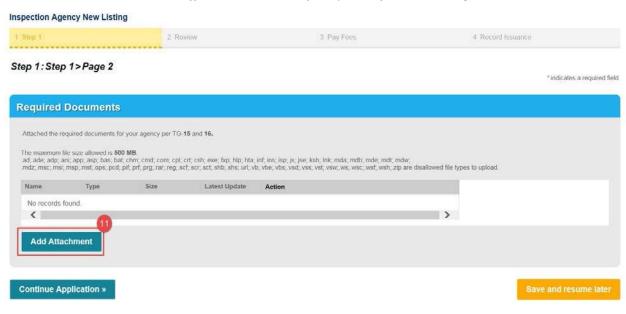


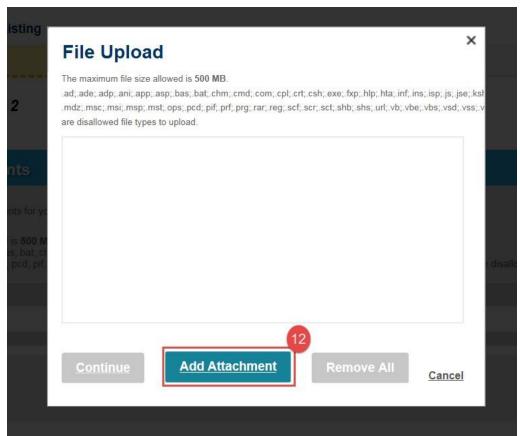
Check only the items that are applicable, then select **Continue Application**

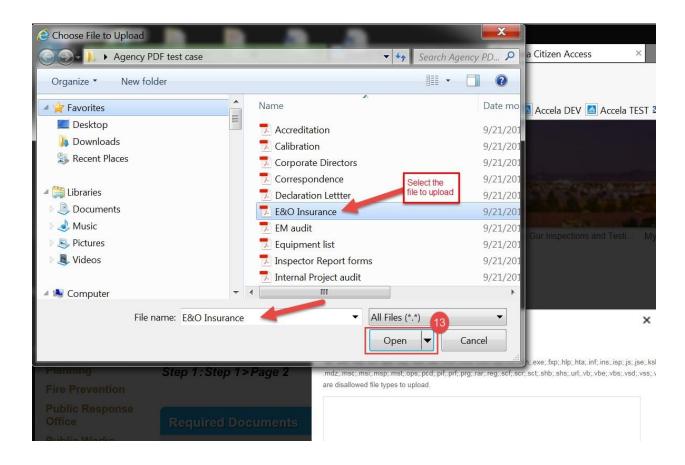
Inspection Agency Information					
Agency Information	1				
* Agency Type:	Prime	Accreditation Agency	Select		
Accreditation Expiration Date:		Agency Website:			
Inspection Items					
Concrete:		Masonry:			
Steel:		Fireproofing:			
Wood:		>5/12 Pitch Roof:			
Fire Penetration and Joint:		Special Case Anchors	:		
Grading:		Cast-In-Place Deep Foundation:			
Helical Pile Foundation:		Driven Deep Foundation:			
Exterior Wall System:		System Commissioning:			
Smoke Control:		Test and Air Balance:			
Garage Ventilation:		Energy Efficiency Testing:			
ATS:		FAB Concrete:			
FAB Steel:		FAB Wood:			
Internal Use:		Nondestructive Testing:			
Special Cases Other:		Special Cases Other Description:			
Internal Use Special Cases:		Electrical Testing:			
Storm Water:		QC:			
Field Listing:		Field Listing Agency:			
Field Listing Description:		Internal Use - Field Listing:			
Laboratory Approvals	5:				

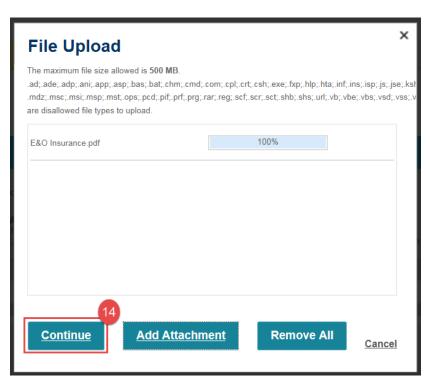
Add the document that are required per TG-15 and TG-16.

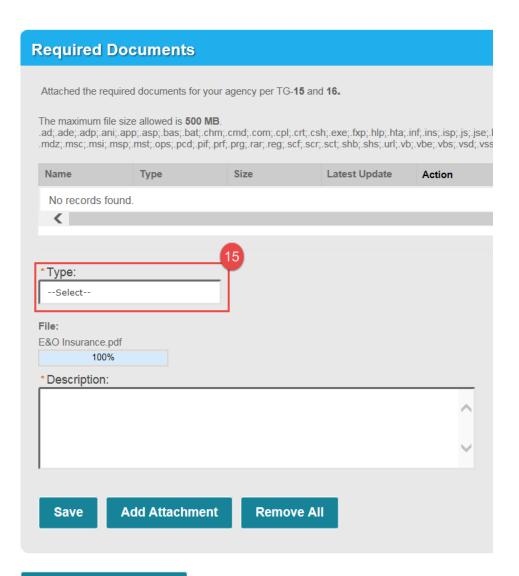
(Please note that numbers are off due to the reuse of the photos from another guide)



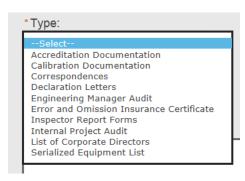


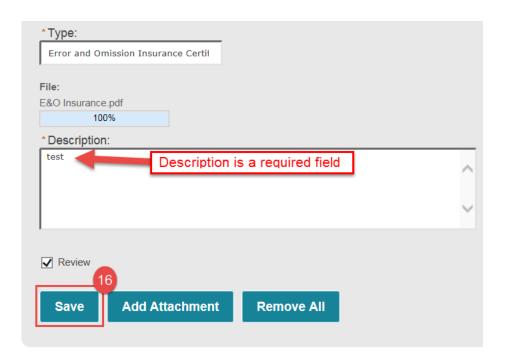






Continue Application »





Continue Application »



Attached the required documents for your agency per TG-15 and 16.

The maximum file size allowed is 500 MB.

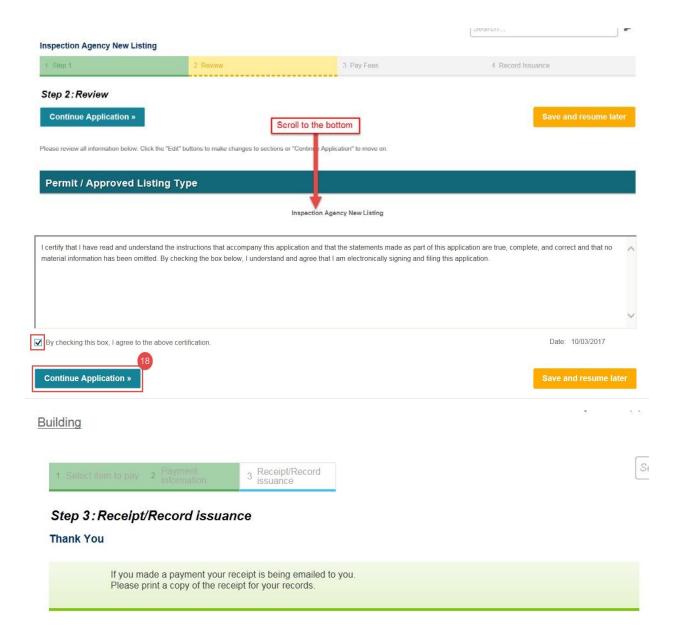
.ad;.ade;.adp;.ani;.app;.asp;.bas;.bat;.chm;.cmd;.com;.cpl;.crt;.csh;.exe;.fxp;.hlp;.hta;.inf;.ins;.isp;.js;.jse;.ksh;.lnk;.m .mdz;.msc;.msi;.msp;.mst;.ops;.pcd;.pif,.prf;.prg;.rar;.reg;.scf;.scr;.sct;.shb;.shs;.url;.vb;.vbs;.vbs;.vst;.vsw;

Name	Туре	Size	Latest Update	Action
E&O Insurance.pdf	Error and Omission Insurance Certificate	25.60 KB	10/03/2017	<u>Actions</u> ▼

Add Attachment

17

Continue Application »



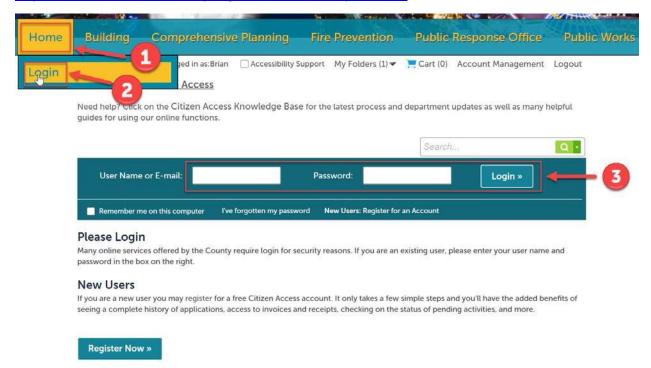
Once your application has been accepted Clark County will review the application and documents. Clark County will send your agency an email stating to add your personnel.

Showing 1-1 of 1 | Download results | Add to My Folder | Add to cart



Log into the Clark County Citizen Access Portal, and search for your agency.

https://citizenaccess.clarkcountynv.gov/CitizenAccess/Splash.html

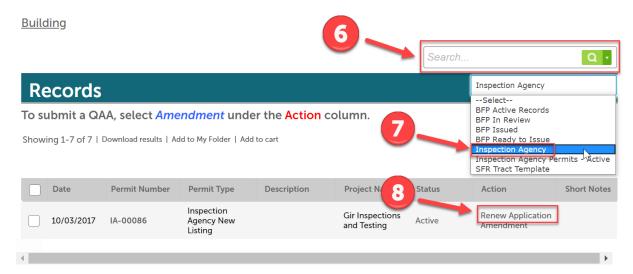


Building

Press and then **Search Permits**, to access all the records linked to your account. Records will include your inspection agency (IA), inspectors (IA), and building/fire permits (BD).

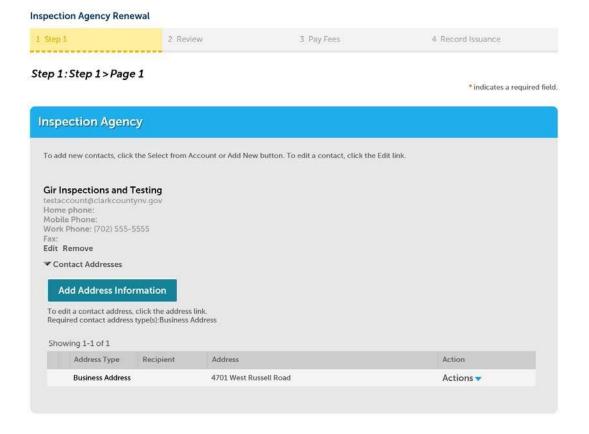


When in the search screen agencies can search for the exact IA number in the search bar, or sort the records by Inspection Agency, or scroll down till you find your record.



The option **Renew Application** shall show by your IA-XXXXX record, under the action column, if so select that option. If the option doesn't show next to your name and you received a renewal reminder CCDBFP, please contact Brian or Carla to start the renewal process.

Once you press on the **Renew Application** selection, the renewal record will open. Verify that the agency contact information is correct and then scroll down. If the option doesn't show next to your agency name, and the agency received a renewal reminder please contact CCDBFP.

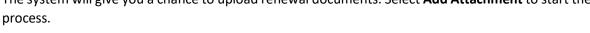


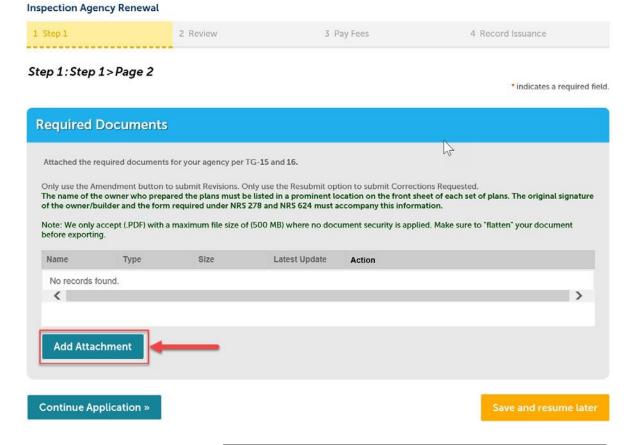
Read the listed information and update agency information as needed. \\

Inspection Age	ncy Information		
Agency Information			
*Agency Type:	Prime	CC Business License C6546504	
Multi-Juridictional Business License #:	1846540	Accreditation Agency: Not Required	
Agency Website:	www.test.test	Remove from Program: If your agency is not	t
Inspection Items	Update any information needed and scroll down.	renewing, please click "Remove from Program" then "Continue Applicati	Box.
Concrete:	Select "Continue	Masonry:	OII .
Steel:	Application" when done.	Fireproofing:	
Wood:		>5/12 Pitch Roof:	
Fire Penetration and Joint:		Special Case Anchors:	
Grading:		Cast-In-Place Deep	
Helical Pile Foundation:		Driven Deep Foundation:	
Exterior Wall System		System Commissioning:	
Smoke Control:		Test and Air Balance:	
Garage Ventilation:		Energy Efficiency Testing:	
ATS:		FAB Concrete:	
FAB Steel:		FAB Wood:	
Internal Use:		Nondestructive Testing:	
Special Cases Other:		Special Cases Other Description:	
Internal Use Special Cases:		Electrical Testing:	
Storm Water:		QC: ✓	
Field Listing:		Field Listing Agency:	
Field Listing Description:		Internal Use - Field Listing:	
Laboratory Approvals:	Grading		
Continue Applicati	on »	Save and resul	me later

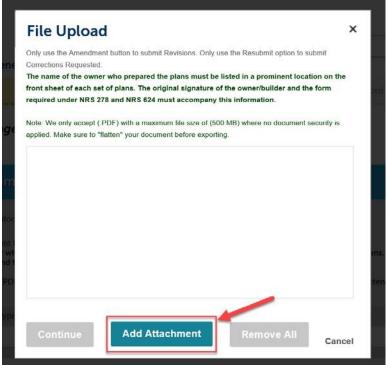
Select Continue Application

The system will give you a chance to upload renewal documents. Select Add Attachment to start the

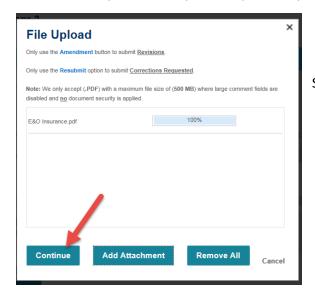




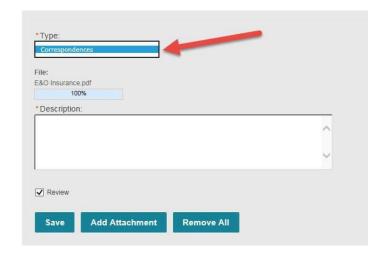
A file upload box will open up select Add Attachment again.



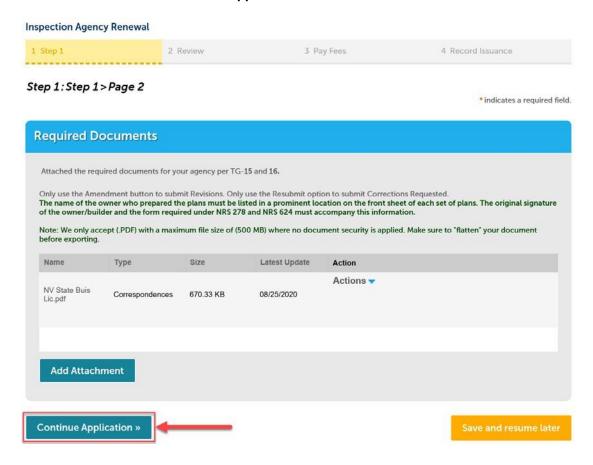
Choose the file you wish to upload. Upload only one file at a time. Select Continue



Select the **Type** of document and enter a **Description**.



Add more documents or select Continue Application



Review your application information, and verify that information provided/updated is correct. Complete the application.

